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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/577,657

05/01/2006

Ralph Lange

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EXAMINER

CHAPEL, DEREK S

ART UNIT

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/577,657	<b>Applicant(s)</b> LANGE ET AL.	
	<b>Examiner</b> DEREK S. CHAPEL	<b>Art Unit</b> 2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12/18/08, 3/23/09.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 9-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 9-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 December 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>12/18/08</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Status Of Claims***

1. This Office Action is in response to an amendment received 3/23/2009 in which Applicant lists claims 1-8 as being cancelled and claims 9-13 as being new. It is interpreted by the examiner that claims 9-13 are pending.

### ***Information Disclosure Statement***

2. The Information Disclosure Statement(s) (IDS) filed on 12/18/2008 was considered.

### ***Drawings***

3. The replacement drawings and amendments to the specification were received on 12/18/2009. These drawings and amendments are accepted. The objections to the drawings cited in the office action mailed 6/23/2008 are hereby withdrawn.

### ***Specification***

4. The disclosure is objected to because of the following informalities: newly amended paragraph [0014] of the specification states that element 1 is a beam splitter whereas paragraphs [0015] and [0016] refer to element 1 as "the reflector".

Appropriate correction is required.

### ***Claim Objections***

5. The amendments to the claims dated 3/23/2009 are accepted. The objections to the claims cited in the office action mailed 6/23/2008 are hereby withdrawn.

***Claim Rejections - 35 USC § 112***

6. The amendments to the claims dated 3/23/2009 are accepted. The rejections of the claims made under 35 USC 112 first paragraph and cited in the office action mailed 6/23/2008 are hereby withdrawn.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 9-10 and 12-13 are rejected under 35 U.S.C. 102(b) as being anticipated by Webb et al, U.S. Patent Number 6,166,385, of record (hereafter Webb).

9. As to claim 9, Webb discloses a laser scanning microscope (see at least figure 1) with an illumination beam path (see at least figure 1, elements 12 and 14 as well as the path in-between), a direction of detection (see at least figure 1, elements 14 and 56 as well as the path in-between; elements 14 and 42 as well as the path in-between; elements 14 and 50 as well as the path in-between), and a non-descanned detection (see at least figure 1, elements 56 and 48), the laser scanning microscope comprising:

a housing (see at least figure one, the box surrounding element 38 or the box surrounding element 34);

a beam splitter positioned to separate the illumination and detection beam paths (see at least figure 1, element 38 or element 34), the beam splitter being arranged within the housing (see at least figure 1);

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optical transmission means arranged downstream of the beam splitter in the direction of detection for regular transmission of detected light (see at least figure 1, elements 52, 54, 22, 36, 46, 48, 20, 34, or 44); and

optical reduction means for reducing the diameter of a beam bundle to be imaged (see at least figure 1, elements 54 or 22), the optical reduction means being mounted one of immediately at the beam splitter housing (see at least figure 1, elements 54 or 22) and integrated in the housing of the beam splitter, between the beam splitter and the optical transmission means in the direction of the detection.

10. As to claim 10, Webb discloses that the optical reduction means is a convex lens (see at least figure 1, elements 54 or 22).

11. As to claim 12, Webb discloses that the optical reduction means is interchangeable (it is noted that lenses 54 and 22 are interchangeable in at least the way that they may be taken out and replaced if broken).

12. As to claim 13, Webb discloses that the optical reduction means can be plugged in (it is noted that lenses 54 and 22 can be plugged in, in at least the way that they may be taken out and replaced if broken, and also in the way that they are "plugged in" during production of the system).

### ***Claim Rejections - 35 USC § 103***

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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14. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

16. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Webb et al, U.S. Patent Number 6,166,385, of record (hereafter Webb) in view of Londono et al, U.S. Patent Number 5,260,828, of record (hereafter Londono).

17. As to claim 11, Webb does not specifically disclose that the optical reduction means is a diffractive optical element (DOE).

However, Londono teaches that standard refractive lenses can be replaced with lenses having both refractive and diffractive optical properties (see at least column 2, lines 14-45 as well as column 8, lines 29-47 of Londono).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify laser scanning microscope of Webb to include the teachings of Londono so that the optical reduction means of Webb is replaced by a converging lens having both refractive and diffractive optical properties, for the purpose of correcting for temperature induced back focal length changes and for controlling aberrations, as taught by Londono (see at least column 8, lines 29-47 of Londono).

### ***Response to Arguments***

18. Applicant's arguments filed 12/18/2008 have been fully considered but they are not persuasive.

19. First, it is noted that the statements on page 9 of applicant's arguments that the structure in the specification corresponding to the "optical reduction means" is the illumination tube lens 4, appear to be incorrect. The specification and claims seem to show that it is element 6 which reduces the diameter of the beam bundle and therefore is the "optical reduction means".

20. With respect to the argument that Webb's mirror 38 is not "positioned to separate the illumination and detection beam paths" as required, this argument is not persuasive. Mirror 38 separates the illumination and detection beam paths in at least the way that the detection beam is transmitted to element 56.

21. With respect to the argument that Webb's element 22 is not mounted between a beam splitter and optical transmission means in the direction of the detection, this argument is not persuasive. The language of claim 9, specifically "mounted one of immediately at the beam splitter housing and integrated in the housing of the beam

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splitter, between the beam splitter and the optical transmission means in the direction of the detection”, could be read as --mounted immediately at the beam splitter housing or integrated in the housing of the beam splitter, wherein for either mount, the optical reduction means is between the beam splitter and the optical transmission means in the direction of the detection-- or --mounted immediately at the beam splitter housing or integrated in the housing of the beam splitter between the beam splitter and the optical transmission means in the direction of the detection--. For the purpose of this examination, the latter interpretation has been used. Therefore, the optical reduction means need only be mounted immediately at the beam splitter housing and need not be between the beam splitter and the optical transmission means in the direction of the detection. However, element 22 of Webb is positioned between the beam splitter (38) and the optical transmission means in the direction of the detection (at least elements 46 or 20) while the beam splitter is still “positioned to separate the illumination and detection beam paths”, beam splitter 38 just separates more than one detection beam path.

22. Applicant’s arguments, see pages 12-13, filed 12/18/2008, with respect to the rejections in view of Engelhardt have been fully considered and are persuasive. The rejections of the claims in view of Engelhardt have been withdrawn.

### ***Conclusion***

23. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP



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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DEREK S. CHAPEL whose telephone number is (571)272-8042. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephone B. Allen can be reached on 571-272-2434. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. S. C./  
Examiner, Art Unit 2872  
6/24/2009

/Stephone B. Allen/  
Supervisory Patent Examiner  
Art Unit 2872